CLAIMS

- 1. A semiconductor device comprising:
- a dicing region provided on a semiconductor substrate;
- a plurality of first dummy patterns formed on a surface of the semiconductor substrate within the dicing region; and
- a plurality of second dummy patterns formed above the semiconductor substrate within the dicing region so as to correspond to the plurality of first dummy patters, respectively.
- 2. The semiconductor device according to claim 1, wherein the plurality of first dummy patterns and the plurality of second dummy patterns are each projected.
- 3. The semiconductor device according to claim 1, wherein the dicing region separates a plurality of semiconductor chips from each other, the semiconductor chips each having a gate portion and being formed on the semiconductor substrate.
- 4. The semiconductor device according to claim 3, wherein the plurality of first dummy patterns each have a structure which is substantially similar to that of the gate portion.
- 5. The semiconductor device according to claim 4, wherein the plurality of first dummy patterns each have a laminated structure including a gate oxide film, a polysilicon film, a Wsi film, and a SiN film.
- 6. The semiconductor device according to claim 1, wherein an element isolation region having an STI structure is formed by each side of the plurality of first dummy patterns.

- 7. The semiconductor device according to claim 5, wherein the plurality of first dummy patterns and the element isolation regions are arranged alternately to form a repetitive pattern.
- 8. The semiconductor device according to claim 1, wherein the plurality of second dummy patterns are protection films provided on the semiconductor substrate.
- 9. The semiconductor device according to claim 1, wherein the plurality of second dummy patterns include insulation films deposited on the semiconductor substrate.
- 10. The semiconductor device according to claim 1, wherein the plurality of first dummy patterns and the plurality of second dummy patterns are arranged at regular intervals.
- 11. The semiconductor device according to claim 10, wherein the plurality of first dummy patterns and the plurality of second dummy patterns are arranged at intervals of 1.5 µm or less.
- 12. The semiconductor device according to claim 1, wherein the plurality of first dummy patterns and the plurality of second dummy patterns are formed along a dicing direction of the dicing region.
- 13. The semiconductor device according to claim 1, wherein the plurality of first dummy patterns and the plurality of second dummy patterns prevent a large waste from being caused due to a crack during a dicing operation.